

REMARKS

These amendments and remarks are filed in response to the Office Action mailed December 3, 2007. For the following reasons, this application should be allowed and the application passed to issue. No new matter is introduced by this amendment. The amendments to claims 1, 6, and 9 are supported throughout the specification and the claims, as originally filed.

Claims 1-4 and 6-9 are pending in this application. Claims 1-4 and 6-12 have been rejected. Claims 1, 6, and 9 have been amended in this response. Claims 10-12 have been canceled in this response. Claim 5 was previously canceled.

Interview Summary

Applicants greatly appreciate the courtesy of Examiner Chuo in granting a personal interview with the undersigned on February 20, 2008. During the interview, the undersigned explained that the claims were not obvious in view of the cited references and proposed amendments. As regards the previous submission of the certified translation of the Japanese priority document, the Examiner explained that he was not able to find the translation in the application file. The undersigned proposed resubmitting a copy of the certified translation in the next response. The Examiner agreed that a certified translation should overcome the Kawase rejection. The undersigned explained that Yamamoto et al. teach away from using silicon active material and pointed out the unexpected results in Tables 3 and 8. The Examiner indicated that he would further consider evidence of unexpected results when a response is filed.

Claim Rejections Under 35 U.S.C. § 112

Claims 10-12 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art.

This rejection is moot, as claims 10-12 have been canceled.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 2, 4, and 6-12 were rejected under U.S.C. § 102(e) as being anticipated by Kawase et al. (US 2004/0142242). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Kawase et al. is not available as prior art in view of the certified translation of the instant Japanese Priority document No. 2003-0099523, which was filed with the April 5, 2007 response. For the Examiner's convenience, a copy of the certified translation is attached to this response. The filing date of JP 2003-0099523 is April 2, 2003 which precedes the November 18, 2003 U.S. filing date of Kawase et al.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-4 and 6-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukui et al. (JP 2002/075332) in view of Yamamoto et al. (US 2003/0054249). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention, as filed, and the cited prior art.

The Examiner explained Fukui et al. disclose a layer comprising an alloy containing Si and Ni or Cu, wherein the active material is mainly composed of Si and does not include a carbon layer. The Examiner relied on Yamamoto et al. for the teaching of a surface layer comprising a silicon oxide film. The Examiner considered it obvious to substitute the silicon

oxide surface layer of Yamamoto et al. onto the negative electrode of Fukui et al. in order to reduce an anode potential during discharging and to reduce the hydrofluoric acid level in the electrolyte.

The combination of Fukui et al. and Yamamoto et al. and Fukui et al. do not suggest the negative electrode active materials for a non-aqueous electrolyte rechargeable battery, as required by claims 1 and 6, and the non-aqueous electrolyte rechargeable battery according to claim 9 because the combination of Fukui et al. and Yamamoto et al. do not suggest the negative electrode active material wherein the active material is mainly composed of Si and an inner layer comprises an alloy comprising Si and at least an element selected from the group consisting of Ti, Co, Mg, Zr, V, Mo, W, Mn and Fe, as required by claims 1, 6, and 9.

The Examiner asserted that Fukui et al disclose alloys of Si with Ni or Cu. Amended claims 1, 6, and 9 do not recite Si/Ni or Si/Cu alloys. Yamamoto et al. do not cure the deficiencies of as Yamamoto et al. do not suggest the negative electrode active material wherein the active material is mainly composed of Si and an inner layer comprises an alloy comprising Si and at least an element selected from the group consisting of Ti, Co, Mg, Zr, V, Mo, W, Mn and Fe, as required by claims 1, 6, and 9.

The present claims are further distinguishable over Fukui et al. and Yamamoto et al., as neither reference suggests the unexpected improvements in batteries using negative electrode active materials according to the claimed invention as found, for example, in Tables 3 and 8 of the present specification. As shown in Tables 3 and 8, batteries according to the present invention have a combination of high high-rate discharge capacity (particularly at the C4 rate) and low internal impedance not provided by batteries without silicon oxide films or with silicon oxide films outside the claimed thickness range.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion in Fukui et al. to substitute a negative electrode active material mainly composed of Si, and an inner layer comprises an alloy comprising Si and at least an element selected from the group consisting of Ti, Co, Mg, Zr, V, Mo, W, Mn and Fe, as required by claims 1, 6, and 9, nor does common sense dictate such a modification. The PTO has not provided any evidence that there would be any obvious benefit in making such a modification of Fukui et al. See *KSR Intl Co. v. Teleflex, Inc.*, 500 U.S. _____ (No. 04-1350, April 30, 2007) at 20.

The only teaching of the claimed negative electrode active material and non-aqueous electrolyte rechargeable batteries is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend, and further distinguish the claimed positive electrode current collector.

In view of the above remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this response or the application in general, a

telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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6-415/07

D E C L A R A T I O N

I, Shinya HAZUI of Room 401, 4-36, Minatomachi 1-chome, Naniwa-ku, Osaka-shi, Osaka 556-0017 Japan hereby declare that I am conversant with the Japanese language and that I am the translator of the document attached and certify that to the best of my knowledge and belief the following is a true and correct English translation of the specification contained in the Priority Document No. 2003-0099523.

This 30th day of March, 2007

Shinya Hazui

Shinya HAZUI